

CLAIMS

What is claimed is:

1. A lock mechanism for a latch in a vehicle door comprising, the lock mechanism comprising:
 - a lock link;
 - a lock actuator drivingly coupled to the lock link for movement of the lock link between a first position corresponding to a locked state of the latch and a second position corresponding to an unlocked state of the latch;
 - a superlock link;
 - a superlock actuator drivingly coupled to the superlock link, wherein the superlock link is slidable between a third position corresponding to a superlocked state of the latch and a fourth position corresponding to a non-superlocked state of the latch;
 - a fixed abutment formation; and
 - an inside lock lever, wherein the fixed abutment formation and the inside lock lever are mounted to allow movement of the lock link between the first position and the second position when the superlock link is in the fourth position and to prevent movement of the lock link between the first position and the second position when the superlock link is in the third position.
2. The lock mechanism according to Claim 1 wherein a relative position of the inside lock lever and the superlock link create a wedged blocking action when the superlock link is in the third position to prevent movement of the lock link between the first position and the second position.
3. The lock mechanism according to Claim 1 wherein the superlock link is mounted for movement with the lock link.
4. The lock mechanism according to Claim 1 wherein the lock link is pivotally mounted.
5. The lock mechanism according to Claim 4 wherein the lock link is fixed for rotation with a gear quadrant to transmit drive from the lock actuator.

6. The lock mechanism according to Claim 4 wherein the inside lock lever is pivotally mounted.
7. The lock mechanism according to Claim 6 wherein the inside lock lever and the lock link are pivotally mounted about a same axis.
8. The lock mechanism according to Claim 4 wherein the superlock link is slidably mounted in a slot having a longitudinal axis extending substantially radially from an axis of rotation of the lock link.
9. The lock mechanism according to Claim 1 wherein a lost motion connection is provided between the inside lock lever and the lock link.
10. The lock mechanism according to Claim 1 wherein the superlock link comprises a pin.
11. The lock mechanism according to Claim 10 wherein the superlock link comprises two pins having substantially parallel longitudinal axes.
12. The lock mechanism according to Claim 1 wherein the inside lock lever has an angled edge that contacts the superlock link when the superlock link is in the third position.
13. The lock mechanism according to Claim 1 wherein the fixed abutment formation is angled relative to a path of movement of the superlock link between the third position and the fourth position.
14. The lock mechanism according to Claim 1 further including a superlock arm that drivingly connects the superlock actuator to the superlock link.
15. The lock mechanism according to Claim 14 wherein the superlock arm includes an arcuate slot that receives the superlock link.

16. The lock mechanism according to Claim 1 wherein at least one of the lock actuator and the superlock actuator is a power actuator.

17. A latch comprising:
- a lock mechanism including
 - a lock link;
 - a lock actuator drivingly coupled to the lock link for movement of the lock link between a first position corresponding to a locked state of the latch and a second position corresponding to an unlocked state of the latch;
 - a superlock link;
 - a superlock actuator drivingly coupled to the superlock link, wherein the superlock link is slidable between a third position corresponding to a superlocked state of the latch and a fourth position corresponding to a non-superlocked state of the latch;
 - a fixed abutment formation; and
 - an inside lock lever, wherein the fixed abutment formation and the inside lock lever are mounted to allow movement of the lock link between the first position and the second position when the superlock link is in the fourth position and to prevent movement of the lock link between the first position and the second position when the superlock link is in the third position.

18. A child safety mechanism for a latch for a vehicle door comprising:
an inside release link;
a wedge block; and
a wedge block support, wherein the wedge block is movable on the wedge block support between a first position, where the inside release link is in a child safety off position and is actuable by a linkage from an inside door handle to allow the latch to be released, and a second position, where wedging action of the wedge block places the inside release link in a child safety on position and prevents the inside release link from being actuated by the linkage.
19. The child safety mechanism according to Claim 18 wherein the wedge block support is selected from the group consisting of a retention plate and a latch housing.